Abstract

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Risk, Returns, Anomalies and Efficiency of the Indian Stock Market: A Study of Cross Sectional and Calendar Effects in the Bombay Stock Exchange(1964-95)

We test the efficiency of the Indian stock market using the BSE stock price data of the last 30 years. We use the Fama and MacBeth(1973) methodology for the cross sectional tests. We test for cross sectional anomalies like size, E/P and BIM effect and seasonal anomalies like the weekend, holiday, turn-of-the-month and monthly effect. These tests for existence of anomalies are indirect tests of efficiency of the market. We find no statistical support for the joint hypothesis that 'the market is weak form efficient and the CAPM is correctly defined'. Further detailed analysis, however, shows that the CAPM and beta works only in bearish market periods. We use 'loss aversion of agents' insights from prospect theory and risk asymmetry between the bearish and bullish positions to explain why risk return relationship holds only in bearish periods. The daily calendar anomalies (weekend, holiday and turn-of-the-month effect) exist in India and 'risk asymmetry in bullish and bearish positions' explains their existence.

The monthly seasonal in returns and risk-return relationship exists in India. Portfolio reallocation of agents to benefit from the temporarily higher returns in alternative asset markets, and the seasonal variation of risk associated with stock market investing, explains the monthly seasonal. In the cross sectional anomalies study we find that the size, E/P and BIM effects show up because of particular methodologies used to perform these tests. The failure to diversify the nonsystematic risk associated with low priced small stocks shows up as above normal 'risk adjusted' returns for small market capitalization stocks' portfolios.

All our explanations use the advantages of studying the Indian stock market but they are not specific to Indian markets. They are equally applicable to comparable stock exchanges in the developed world and especially in the US. The unfailing recurrence of "risk" as an explanation in all our studies, points towards efficiency of the Indian market and a sophistication of the Indian markets to correctly measure and price a complex variable like risk. It also reassures us about the wisdom of our policy of moving towards an increasingly market driven economy in India.